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# "If you had asked me that question three months ago..."

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**PAN AMERICAN FISHERMAN**

# Insuring the Present . . . and the Future

As in the Past . . . So in the Future

All Activities of the American Tunaboat Association

Are Directed to the Improvement and Prosperitv

of the Tuna Industry

*Joseph E. Penacho*
President

*Harold F. Cary*
General Manager

## AMERICAN TUNABOAT ASSOCIATION

No. 1 TUNA LANE • SAN DIEGO, CALIFORNIA

Published Monthly • Established 1947

# PAN AMERICAN Fisherman and OUTDOOR WEST

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## Why the killer came to Powder Springs

THE SKINNY little Texan who drifted into Butch Cassidy's layout at Powder Springs one day in '97 had dead-level eyes, a droopy mustache, and two six-guns tied down for the fast draw. Called himself Carter. Said he was a killer on the run.

That's why Cassidy and the outlaws in his notorious Wild Bunch told him all about the big future plans for their train robbers' syndicate. They took him in.

And he took them in. He was a range detective whose real name was a legend in the West—Charlie Siringo. And the information he got before he slipped away stopped the Wild Bunch for a long time.

Of course, Siringo knew all along that if Cassidy or the others had discovered the truth, they'd have killed him sure. But it just never worried him any.

You couldn't scare Charlie Siringo. Coolest of cool customers and rawhide tough, he had the go-it-alone courage it takes to build a peaceable nation out of wild frontier. That brand of courage is part of America and her people—part of the country's strength. And it's a big reason why one of the finest investments you can lay hands on is America's Savings Bonds. Because those Bonds are backed by the independence and courage of 165 million Americans. So buy U.S. Savings Bonds. Buy them confidently—regularly—and hold on to them!

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It's actually easy to save—when you buy Series E Savings Bonds through the Payroll Savings Plan. Once you've signed up at your pay office, your saving is done *for you*. The Bonds you receive pay good interest—3% a year, compounded half-yearly when held to maturity. And the longer you hold them, the better your return. Even after maturity, they go on earning 10 years more. So hold on to your Bonds! Join Payroll Savings today—or buy Bonds where you bank.

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## *In This Issue . . .*

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# FISHING INDUSTRY EXHIBITS

ONE hundred and fifty newspaper food editors, whose columns are read by millions of women every day, saw a parade of fish and shellfish in many forms, exhibited by the fishing industry, at the Waldorf-Astoria Hotel, New York, Monday afternoon, September 24. United States and Canadian publications were represented.

In a "town market" setting, gay with striped tent, large flowered umbrellas, little tables with checkered cloths, geraniums and smilax, the entire range of frozen fish and shellfish, with a wide variety of fresh products, and 55 varieties of canned fish, as well as many prepared foods, were displayed. These products represented foods from rivers, lakes and oceans of the entire United States.

In addition, there were 23 cooked dishes, each a gourmet dish, for the editors to see and taste. These dishes, too, represented the entire fish and shellfish industry: Brook Trout Supreme, Sardine Tarts, Planked Red Snapper, Creamed Canned Salmon with White Grape Sauce, Whitefish with Minced-Clam Stuffing, Shrimp Fried Rice, Lobster Tails Thermador, Baked Wall-Eyed Pike with Shrimp Sauce, Fish Fillets with Dill Pickles, Tuna-Walnut Croquettes, Swordfish with a Provencal Sauce, Poached Salmon in Aspic, Grilled Halibut and Pineapple, Butterfish Amandine, Herbed Fish and Shrimp, Sea Bass Baked in Wine, Seafood Ragout with crabs, mussels, lobster and scallops, Scallop Chowder, Spiced Shrimp Marinated in Beer, Shrimp and Oysters with Wild Rice, Fish Sticks with a variety of sauces, Clams and Oysters Casino, plus a large assortment of appetizers.

Each editor received—besides releases, recipes and photographs—a gift from the fishing industry—a Time and Tide Chart Table. The chart, which formed the table top, is a reproduction of one used by 18th-century fishermen in England.

The exhibits served to introduce the coming all-fisheries promotions—the Fish Parade, October 29 to November 3, and the Shrimp Fiesta, October 15 to November 3. *

## Market Study on Canned Sardines

U.S. Foreign Service posts have undertaken a study of the potential market for United States sardines in their respective countries. The countries include those which are believed to be historical or potential consumers of canned sardines. For the purpose of the study, sardines include all sardine-type fish such as, for example, small herring, pilchards, sprats (brisling), and true sardines.

Foreign Service reports from the Gold Coast, French West Africa, Algeria, Switzerland, Cuba, Austria, and the Philippines have already been received.

These reports include data on the country's pack of canned sardines, if any, and its relative importance; quantity of sardines consumed and the extent to which consumption is satisfied by domestic production; current consumption trends; a list of the most popular sizes of cans used by percentage of total consumption; a list of the most popular packing medium by percentage of total consumption; estimated percentage of sardine consumption by income groups.

## Roses in the Sea

Garlands of red roses were cast onto the sea as usual during the Fishermen's Fiesta in San Pedro harbor as a tribute to men lost at sea. This year's ceremony carried particular significance for relatives of five men who lost their lives when the *Western Explorer* sank in southern waters last May.

This boat was a yearly participant in the Fishermen's Fiesta boat parade and a prize winner on several occasions, as illustrated in some previous issues of this magazine.

# Canned Tuna Sales Up

TUNA sales by the Southern California canners during the past nine months have been the highest in the history of the industry, and price-wise, the cheapest to the consumer since World War II.

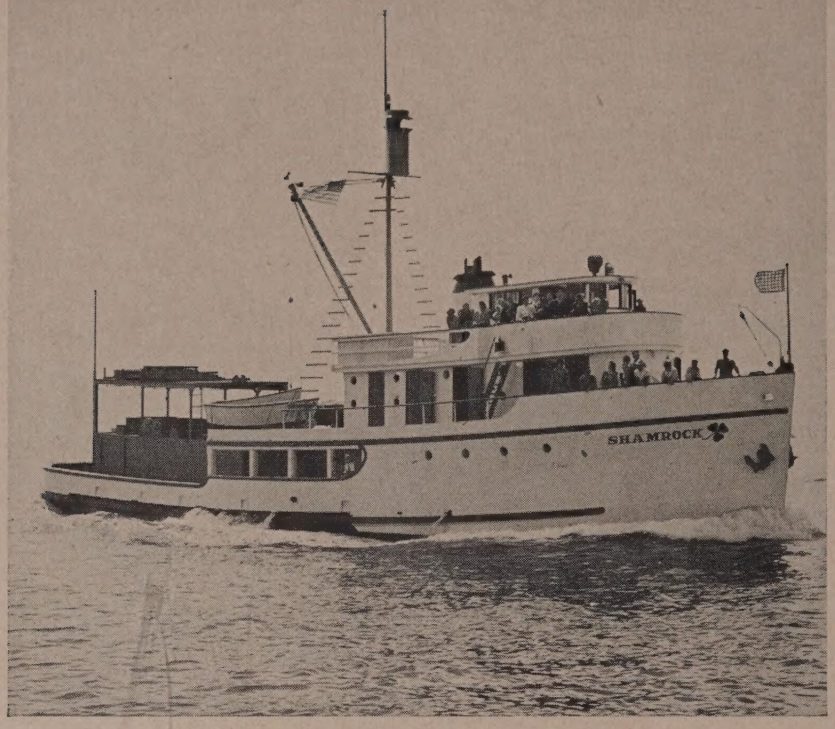
California Fish Canners Association records show that sales have increased over one million cases in excess of last year, with total sales of more than nine million cases anticipated by the first of the year.

A comparison of canned tuna and general food prices in the cost of living index released by the Department of Agriculture, shows that canned tuna prices have dropped 21.7% below the average price on all foods on the index between the 1947-49 base period of last July, and 23.9% below the entire consumer price index for the same comparable periods.

"The Southern California tuna industry, which accounts for 85% of the overall production, is one of the most highly competitive in the entire food industry," Charles D. Carry, executive secretary of the California Fish Canners Association declares. "A glance at the struggle for markets makes this fact instantly apparent, and is, to a large extent, responsible for low tuna prices.

"Also, fishing has been good this year," Carry continued, "with the result that the inventory is seasonally high. Although sales are at their greatest peak, we also are canning at an all-time high so that ample reserve stocks are assured. This reserve supply points to retail price levels advantageous to the consumer."

Commenting on the cost of living index Carry said, "Tuna offers the consumer the best food buy today." In other words, the homemaker has never had it so good as when she selects tuna from the grocery shelves, not only for its nutrition but its economy and satisfaction too.




## *Development of Refrigeration in*

# MODERN TUNA CLIPPERS

A serious problem confronting early tuna clipper owners and fishermen was that of preserving the catch from the time the first tuna was brought aboard until, perhaps, 90 to 120 days later when the tuna were discharged at a cannery. Early methods utilized crushed ice and ammonia coils banked overhead and on the sides and bulkheads of the holds to supplement the cooling ice and to overcome the heat absorption through the hull. Usually the forward deck-box was used to carry iced tuna after the holds were filled.

Fishermen tried a method of circulating chilled sea water to preserve their tuna in the forward boxes, and this proved so satisfactory all the tuna clippers were converting their water-tight wells and forward boxes to this method of freezing. A brine cooler was installed on the deck in which the ammonia refrigerant was used to cool the sea water that was constantly circulated through the wells. Fish thus preserved, usually arrived at the canneries in excellent condition.

In the late 1930's, some all-brine boats were built, having the entire hold divided into water-tight compartments so that the whole catch could be frozen in brine. This innovation added much complicated piping and equipment, and resulted in a greater investment by the owners. It also resulted in much less fish carrying capacity, since a good deal of space was needed by the full length, full height shaft alley for the piping and machinery and to provide buoyancy to compensate for the heavier loaded brine wells.

Notwithstanding this, the popularity of the all-brine tuna clipper was immediately established with the fishermen. Following a hard day of fishing they had only to pass the fish into the wells, instead of spending half the night stowing their catch in ice. In addition to the labor saving, the all-brine vessels had the advantage of using these wells for carrying bait. This cut down the size of the deck boxes and relieved some of the top-heaviness of the tuna clipper. Forward wells were also steel lined and utilized for carrying fuel on the outbound voyages, and when empty cleaned and used for fish on the trip home.

One skipper completely loaded his vessel during a good fishing trip only to discover she was too heavy. Reluctant to throw away any of his fish, he decided to pump out the chilled water from the fish cargo holds and lighten his vessel. Elimination of the brine put the fish in a dry frozen condition, and they were held this way until arrival at the cannery, where they were found to be in excellent condition.

The skipper tried this again and again with good success, and soon the entire fleet adopted the method of pumping out the brine and keeping the fish dry-frozen with the benefit of the ammonia coils that lined the fish holds. Sometimes fish brought in in this manner were found to be spoiled because of a "warm-spot" in the tank that had formerly been kept cold by the circulating water. This was because the engineers had pumped the brine out too soon—before the latent heat from the fish had been dissipated.

Other refinements were added to improve and simplify the brine freezing method. After the initial freezing of the fish with chilled salt water at 28 to 30 degrees F., salt was added to the sea water making a heavier brine and the temperature was reduced to about 20 to 25 degrees F. This completely eliminated the "warm-spots."

During the last decade it was found that the cumbersome brine coolers could be dispensed with and the refrigeration of the fish accomplished by means of the ammonia coils which line the inside of the fish holds. These coils are now specified at 6 to 8 inches spacing, rather than the 10 to 12 inch spacing formerly used. Agitation of the brine through the fish is accomplished by small two or three hp brine circulating pump

mounted in the shaft alley, one for each tank, circulating the brine from the bottom to the top of each tank.

The coils which line the wells and boxes draw heat from the brine and fish by means of direct expansion of ammonia. The ammonia is supplied directly from a large ammonia receiver, located in the aft end of the shaft alley, through automatic expansion valves at each well. The ammonia gas is drawn from the coils in any one of three suction headers which are maintained at three different suction pressures by means of back pressure valves corresponding to the required temperatures to chill sea water for the initial freezing at 28 to 30 degrees F.; to freeze the tuna in heavy brine at 20 to 25 degrees F.; and to maintain the tuna frozen dry at about 10 degrees F.

The three suction headers are piped through manifold valves to motor driven reciprocating type ammonia compressors, usually three to six in the upper engine room. The total refrigeration capacity of the compressors may vary from 35 to 200 tons. The hot gas discharges from the ammonia compressors to two large condensers, usually of a vertical tube flooded type especially developed for the tuna clippers, which are located on the main deck just ahead of the deck boxes. The condensers are cooled by circulating sea water. The condensed ammonia in the bottom of the condenser then flows by gravity to the ammonia receiver below in the shaft alley.

**Personality**

There are many other features that make up the character of the tuna clipper and that seem as much a part of it as the bamboo fishing poles or the large deck boxes. These features were fathered by the long trips over wide stretches of lonely ocean; the hot tropical waters where it fished; the violent storms it encountered; and by the temperament and religious culture of her fishermen.

It is the fishermen themselves who have installed the most fascinating and engaging facets of character into the tuna clippers, and who have been the real force in their development and success. They are a proud, colorful, jealous, courageous, bold and at the same time fearful lot, who have put their stamp on the tuna clipper. As an integral part of a profitable and expanding industry, the fishermen were quick to place their earnings in vessels and improvements.

Jealously they strove to make their vessels better, more beautiful, more efficient than others. They added the raised deck forward to make their vessels more seaworthy; more able to withstand the terrible storms that break without warning in the Gulf of Tehauntepec. They studied with critical eye the plans of a new vessel to make the lines more pleasing, the accommodations more livable; for indeed they now lived aboard their tuna clippers more than in their homes ashore. They built a small chapel aboard to do homage and to please their God, and their wives furnished it with the finest laces and appointments. They added their character, their culture, their flair and color to the vessel, and it became the modern tuna clipper we know today. ★

Small but beautiful and well appointed . . . this shows a typical chapel on tuna clipper.

## Salmon Waste for Bait

An interesting development in southeastern Alaska during recent years has been the growth of industries utilizing selected portions of the waste from salmon canneries as bait.

A few years ago, a West Coast bait company started collecting large quantities of chum salmon eggs for packaging and sale to sports fishing enthusiasts. This operation is still in progress. A small industry has developed this year from the collection, packaging, and freezing of pink salmon heads for use as bait in the commercial halibut fishery.

The use of salmon heads as a halibut bait is not new. In the past, individual fishermen have collected fresh heads during the canning season. The present innovation, however, is the first effort to be made in this area to make frozen salmon heads available commercially on the same basis as frozen bait herring.

## This Is Fun!

Two items of special interest to salt water anglers occurred at opposite ends of the Southern California coast one day last month.

First albacore in the history of Santa Barbara were brought into that port, while a 50-pound 12-ounce bluefin tuna was checked in at San Diego, biggest taken in many years on rod and reel.

Another oddity was George Beck landing a 132-pound marlin on an albacore feather in 40 minutes while trolling aboard a day boat out of San Diego. However, at the Newport-Balboa harbor Bill Hoss brought in a 179-pound marlin on medium tackle in one hour and 15 minutes aboard his own cruiser.

# What's New or Different

## Boy Scouts Sailboat

This 32 ft. sailboat owned and operated by the Boy Scouts of America Council of San Fernando Valley, California, has a Universal 50 H.P. Superfour engine for her auxiliary power.

Used as a pleasure boat for all Scouts and as a training ship for the Sea Explorers gives her lots of year around use. With the Universal engine aboard the staff members say that they always feel safe and secure with their teenage responsibilities.

## Cordage Industry Wants Imports Restricted

F. P. McCann, executive vice-president, will represent Tubbs Cordage Company of San Francisco at public hearings in Washington, D. C., this month to support the United States Cordage Industry's contention that rising rope and twine imports impair the national security.

Over 15 American cordage companies will seek to prove that imports must be controlled to permit domestic manufacturers "to maintain an operating base from which it can expand to meet emergency requirements." Findings of the hearing will be presented to the President who may, if the recommendations so indicate, take action to adjust the imports to a high level that will not threaten national security.

The cordage companies will argue that a vigorous domestic industry must be maintained to provide price protection to their industry the same as to commercial fishermen. According to the association, foreign twines are not set on cost but on "what the market will stand" and therefore domestic producers must remain competitive in order to keep import prices at a reasonable level.

## Frozen Shrimp

Marine Products Company, San Diego, California, is now producing peeled and deveined frozen shrimp, in retail and institutional packages, under the Ocean Garden brand. The 5-pound pack will be promoted to restaurants and hotels, to reduce kitchen work and mess, and will be of particular interest to institutions with limited kitchen space and staff.

The new pack rounds out the Marine Products Company line, which includes raw frozen, breaded and fried shrimp, under Southern Star, Southern Seas and Ocean Garden labels. All MarPro shrimp are from the Gulf of California and are carefully processed in modern plants.

## Small Engine Conditioner

Outboard motor owners and power lawnmower owners who are having difficulties with regard to proper storage and quick starting now are offered a simple solution to the problem.

Carb Master, the carburetor and fuel line conditioner, is especially beneficial to fuel systems in outboard and inboard motors, power mowers, power saws and gasoline-powered tools, all-purpose pumps, and similar units powered by the combustion principle.

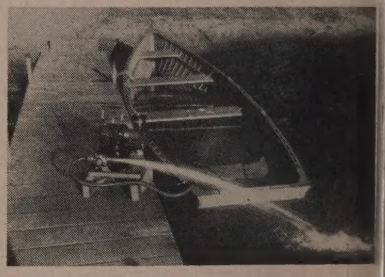
Two ounces of Carb Master to a gallon of gas thoroughly cleans the fuel system, eliminating a great deal of waste in fuel consumption. With the gums, varnishes and moisture removed from the system, fuel flows more freely and gives the engine faster starts, smoother idling, and all-around more dependable performance.

Additional information may be obtained from the manufacturer, Rust Master Chemical Corporation, 56 Creighton St., Cambridge, Mass.

## New Aerosol Spray Attracts Fish

If the fish won't bite on ordinary bait or lures, you might entice them onto your hook with a new aerosol spray coating for the business end of the line.

Moreover, says the manufacturer of the new push-button product, you might be able to pick and choose the kind of fish that'll take your line. His aerosol spray, packed in a convenient, three-ounce container, is available in five different "aromas" —to attract trout, salt water fish, carp, bass and pan fish, and catfish. "Odor Action" Fish Lure is a product of Robert J. Kerr Chemicals, Inc., P.O. Box 89, Park Ridge, Ill., and is available in sporting goods stores at about $2.95 per three-ounce container.



## Boat Bailer

Many an adventure in fishing for pleasure turns out unhappily when the boat must be bailed out by hand. Now a more pleasant, and immeasurably faster, method is offered by this portable pump made for just such occasional chores.

When the pump is not bailing boats or pumping out flooded basements, it can be used for circulating water in a live bait box, or spraying weed killers or insecticides, or doing a half dozen other chores.

Portable pumps like this are rapidly becoming more popular. The manufacturer states, "With more and more people enjoying the out-of doors, and particularly our lakes and streams, there is a booming demand for equipment for lifting, moving and using water. Hypro Engineering Inc., 700 39th Ave. N.E., Minneapolis 21, Minnesota.

# Value of Fishery Products

The production of manufactured fishery products (canned, packaged, cured, and byproducts) in the United States and territories (Alaska, American Samoa, Hawaii, and Puerto Rico) in 1954 was valued at approximately 664 million dollars according to figures recently issued by the Fish and Wildlife Service. This was an increase of 13% compared with the previous year. Canned products accounted for 50% of the total value; packaged fish and shellfish, 33%; cured fish, 5%; and fish and shellfish byproducts, 12%.

The pack of canned fishery products in the areas listed above during 1953 amounted to 863 million pounds valued at 331 million dollars to the packers. This represented an increase of 9% in volume and 8% in value compared with the previous year.

The domestic pack of tuna during 1954 established a new record with a production of 10.9 million cases valued at 142 million dollars to the packers.

The canned salmon pack recovered slightly during the year and amounted to nearly 4.2 million cases valued at 92 million dollars compared with 3.9 million cases valued at 82 million dollars in 1953.

Pacific sardines which for many years yielded annual catches of more than one billion pounds, and a record five million-case pack in 1950, recovered noticeably from the 64 thousand-case-pack of the previous year and accounted for 1.3 million cases in 1954. The catch of this item would have been considerably greater had there been a stronger market for canned sardines.

The pack of anchovies, 506 thousand cases, was less than one-half the 1953 record pack. The animal-food pack continued to climb during the year and amounted to a record 4 million cases valued at 18.4 million dollars.

The 1954 production of fishery byproducts was valued at 82 million dollars—11% more than the value of the previous year. Production of fish and marine-animal meal and scrap amounted to 257 thousand tons valued at 32.8 million dollars to the producers. The yield of marine-animal body oils amounted to 21.6 million gallons valued at 11.4 million dollars to the manufacturers. Some of the other important byproducts manufactured during the year were marine pearl-shell, oyster-shell, and fresh-water shell products valued at 17.0 million dollars, and fish solubles and homogenized-condensed fish valued at 10.6 million dollars.

## New Research Ship Dons U.C. Colors

The Orca, newest addition to the University of California research fleets at La Jolla, has been painted the University colors, blue and gold.

The hull and some of the trim are blue, the superstructure yellow gold. The ship was formerly white, as are other vessels in the research fleet.

The Orca was acquired by the Regents in May 1956. She is operated by the University's Scripps Institution of Oceanography.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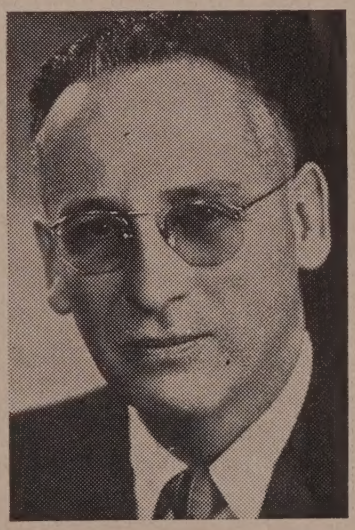

RE-ELECT James B. UTT

TO CONGRESS

*the Fisherman's Friend*

*GOOD DEVELOPMENT*

# Shrimping In Australia

**By HUGH V. CLARKE**

RICH prawning grounds may provide Australia with another good dollar earner.

Recently Queensland sent a trial shipment of prawns (shrimps) valued at £14,700 to the United States. This was the result of nearly two years' investigation of new rich prawning grounds discovered in the Bundaberg-Gladstone area of Queensland.

For some 800 miles, from around Greenwell Point, in southern New South Wales, to Hervey Bay, in Queensland, prawning grounds are now known which in 1954-55 yielded a catch of 6,600,000 lb. worth £878,839. As these facts become known, representatives of big trading concerns in Europe and the United States are visiting Australia to investigate the situation at first hand.

Australia annually earns approximately $5,300,000 for crayfish-tails and pearl shell. Now there is the prospect of building up a new export trade in prawns.

Queensland's now rapidly-growing shrimp industry is centered at Bundaberg which is situated near the mouth of the Burnett River, 200 miles north of Brisbane.

Today the hardy fishermen who man the 70 or 80 boats operating from Bundaberg's wharves, are as familiar a sight in the wide and gracious streets of the city, as are the cane cutters who flock to the district to harvest the rich fields of cane.

One has only to talk to any fisherman to sense the tense but friendly rivalry between companies as the race to improve methods of trawling and processing intensifies. Already the Hervey Bay Trawling Company has designed and produced attractive cartons for marketing the processed prawns in America.

Recently re-named "Australian White Shrimp," these banana prawns average about eight inches long and an inch thick, and are more highly regarded for flesh content and appearance than other species caught elsewhere in Australia, or those being netted in the Gulf of Mexico.

The processing too, has opened up a new field of employment for local workers and at the plants of each company scores of women are permanently employed heading and packing prawns for export. They are paid piece work rates and can earn up to £4 per day.

The prawning season, which lasts about seven months of the year—from April to October—has attracted boats from all over eastern Australia this year, and many of the fishermen have already bought homes and settled in Bundaberg.

A few days' experience on any trawler makes one appreciate the hazards, the long hours, and the hard work that go to winning prawns from the sea bed.

The trawlers are of many shapes and sizes, ranging in cost from £2,000 to £10,000, and in appearance from Noah's Ark to a river pleasure boat. They are manned by from two to four men, and after loading stores, and filling their ice boxes with about a ton of ice each, they put to sea for up to four days at a time.

Many boats have two-way radios and are in communication with each other and with their home station while at sea. This contact eliminates much of the element of luck which is inherent in trawling for prawns. If one skipper strikes a thick patch, he radios his less fortunate mates and soon the whole fleet converges on his find.

The methods of trawling are basically the same. Each trawler has two large iron-bound hardwood boards called Otter boards, which are swung over the sides in much the same way as the paravanes which ships used in war time to clear mines from their path.

At one end, the Otter boards are connected by cables to a winch, and to the other end the net is attached by chains.

When the boards are dropped overboard they are inclined at such an angle that the motion of the trawler drags them down to the sea bed and they in turn drag the net with them.

The nets, which are of modern Australian and American design and cost from £20 to £50 each are dragged behind the boat at a distance of up to 200 feet, for periods up to three-quarters of an hour.

At the end of each trawl the net is winched to the surface, hauled on board, and its contents emptied on the deck.

The net is quickly thrown overboard again, and while the next trawl is being made, the catch is examined and sorted. The prawns are separated from the miscellaneous small fish, graded for size, and then packed in ice. The small and useless fish are then swept overboard to the screaming delight of clouds of gulls which follow each trawler.

A good export market for Australian prawns seems to be opening up. Investigations have shown that catches of up to five times the present output from the eastern Australian prawning grounds are possible—sufficient to satisfy and expand domestic demand and yield a large surplus for export.

## Meetings on Standards for Shrimp

The Fish and Wildlife Service will hold a series of public conferences in five key cities from October 31 to November 12 to consider proposed standards for grading frozen raw breaded shrimp. For some time FWS has been engaged in the development of voluntary Federal standards for fishery products.

Consideration of the information developed in these meetings will indicate what changes, if any, are needed in the standards. The meet- nental shelf and slope from Dixon

Wednesday, October 31, Jacksonville, Florida

Friday, November 2, New Orleans, Louisiana

Monday, November 5, Brownsville, Texas

Friday, November 9, Los Angeles, California

Monday, November 12, Chicago, Illinois.

## Jack Mackerel Plentiful

Washington commercial fishermen in the Cape Flattery area have reported large catches of California jack mackerel this season.

The occurrence of this species off the Washington coast is not rare and jack mackerel have been found as far north as the Gulf of Alaska. It is unusual, however, for them to appear in such large numbers.

The jack mackerel, a streamlined, rapid-swimming fish, is a distant relative of the tuna and albacore. In Southern California 146,000,000 pounds of jack mackerel were landed in 1952. Only yellowfin tuna were taken in larger quantities. In California, mackerel ranked fourth in market value that year, bringing $4,750,000.

Because of its unpredictable appearances off the Washington coast there has been no local commercial utilization of mackerel. Dressel-Collins Fish Company, of Seattle, has purchased several hundred pounds of the fish to experiment with its marketing possibilities.

The heavy landings of jack mackerel coincide with the first large run of albacore off the Washington coast since 1950. Both species are known to favor warm water and the two runs may be related in that fishermen have reported unusually warm water temperatures offshore.

Albacore fishermen trolling off the coast of Oregon, 110 miles south of the Columbia River mouth recently made some excellent catches . . . the Seattle boat, Brisk, took 722 fish in one day's fishing.

## Age-Old Riddle of the Disappearing Fish

Efforts are being renewed to investigate the age-old riddle of the migrations and movements of fish in the Mediterranean, which have baffled man since the Phoenicians caught tuna along its shores.

The proposed program will entail the study of fish populations in the Mediterranean, the migrations and life cycles of various species of fish, a study of trawling grounds, and the accumulation of other facts which may fit into place like pieces of a jigsaw puzzle and clear up some questions.

For example, we know that tuna appear in certain parts of the Mediterranean at certain times of the year, years since the days of Nineveh and as they have done for thousands of Tyre. Fishermen are able to fish them for only a few months, then they completely disappear for the rest of the year. While many interesting theories have been advanced as to where the fish go nobody really knows.

## Fish Servings Pay at Restaurants

Serving for serving, there is as much profit for the restauranteur in fish and shellfish as there is in steak, roast beef, roast pork or chicken, and in some instances there is more.

At least that is what two-thirds of the operators of public eating places reported to the Fish and Wildlife Service in a recent study of a sample of 4,500 establishments. These operators are representative of the 208,000 public eating places in the United States which serve fish and shellfish.

According to John L. Farley, Director of the Fish and Wildlife Service, 40% of the managers contacted in the survey reported that there is more profit in a serving of fish than in a serving of steak and another 29% say there is just as much.

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*POFI Cruise Reports*

# ALBACORE TUNA

## *In Hawaiian Waters*

PROSPECTS for development of a fishery for the valuable "white-meat" albacore tuna in central Pacific waters north of the Hawaiian Islands have been considerably brightened by the excellent catches made on the most recent exploratory fishing cruise in that area, according to an announcement by Dr. Albert L. Tester, director of the Pacific Oceanic Fishery Investigations.

The U.S. Fish and Wildlife Service research ship *John R. Manning* returned to Honolulu, September 12, from a trip of nearly two months' duration which took the vessel all the way to the Aleutian Islands, and delivered to a local cannery four tons of albacore captured by gill-netting and trolling.

Although Hawaii has at present a well-developed local fishery for skipjack, which is canned as "light-meat" tuna, and a smaller longline fishery which delivers yellowfin and bigeye tuna to the fresh fish market, the higher-priced albacore is not now landed in the Islands in significant quantities. Development of a Hawaii-based fishery for this species would make an important contribution to the fishing industry of the Territory.

The *Manning's* explorations covered the area between the longitudes of 175°W. (roughly north of Midway Island) and 145°W. (northeast of the main Hawaiian Islands). The greatest abundance of albacore was found in the western part of this area, between 43°N. and 47°N. latitudes, with a marked falling off in the catches east of 160°W. Surface trolling with six lines was done during the day, and sets of gill-nets and trammel nets of various mesh sizes were made during the night.

According to Dr. Joseph J. Graham, chief of the scientific field party on the cruise, gill-netting was much more productive than trolling, with approximately 500 albacore taken in the nets as compared with 100 on the trolling lines. Net catches ran as high as 89 fish per day, although only eight of the 12 nets used had meshes of a size suitable for the albacore encountered on this cruise.

Exploratory fishing was supplemented with studies of the albacore's environment through collection of plankton, measurement of water temperatures and transparency, and observation of sea birds and marine life. Experiments in night trolling with luminous lures and in live-bait fishing using sand launces collected in the Aleutians were attempted but without success.

Eighty-six albacore were marked with plastic tags and released alive in order to study their migrations and growth rate. Earlier recaptures of such tagged fish have indicated a possibility that the stocks of albacore which support large commercial fisheries off the North American and Japanese coasts may migrate across the Pacific north of Hawaii. *

## Tuna in South Australia

A major tuna fishing ground exists in South Australian waters off Port Lincoln. It extends at least from Flinders Island to the Neptune Islands and is capable of supporting a tuna industry of reasonable size.

This has been reported to South Australian's Premier by one of two California tuna fishermen brought out by the South Australian government for trial tuna fishing.

The California fisherman said the tuna were chunkier than those caught off California, giving a better yield with less waste. He said the government should persevere with investigations into pilchard possibilities also.

Under a government guarantee the two San Diego, California, fishermen came to South Australia for three months' testing of the waters for tuna and to introduce pole fishing to the Australian fishermen.

## U.S. Production of Fishery Products Shows Increase

During 1954, the catch of fishery products in the United States and Alaska amounted to 4.7 billion pounds valued at 356 million dollars to the fishermen according to bulletin, *Fisheries of the United States and Alaska*, 1954, recently released by the U.S. Fish and Wildlife Service.

This was an increase of 274 million pounds or 6% in volume and 3.4 million dollars or 1% in value compared with the landings of the previous year.

Noticeable gains of the major species of foodfish recorded during 1954 were Pacific tuna (up 20 million pounds), cod (up 12 million pounds), croakers (up 24 million pounds), haddock (up 15 million pounds), halibut (up 14 million pounds), Pacific mackerel (up 18 million pounds), Atlantic ocean perch (up 24 million pounds), Pacific sardines (up 127 million pounds), and anchovies (up 44 million pounds).

Menhaden was the principal species taken in 1954 and was used almost entirely in the manufacture of fish meal and oil. The catch of this species during 1954 amounted to over 1.7 billion pounds and established a new record. Menhaden alone accounted for 37% of the total landings of all fish and shellfish taken during 1954. This catch was the greatest United States annual production of any single species and was 235 million pounds greater than the 1936 record catch of Pacific sardines.

Poundagewise, purse seines (2.2 billion pounds) was the most important gear in 1954, accounting for 46% of the total catch. Otter trawls (1.2 billion pounds) was second with 25% followed by all types of line (469 million pounds) with 10%.

The 1954 catch was made by 145 thousand fishermen operating 82 thousand fishing craft of all types from row boats to large tuna clippers.

This bulletin is available free from the Division of Information, U.S. Fish and Wildlife Service, Washington 25, D. C.

# OUTLOOK FOR PISMO CLAMS

A temporary period of lean years is ahead for Pismo clam diggers, predicts John E. Fitch, biologist of the California State Department of Fish and Game.

This is because the Pismo clams have not had a really successful spawning season in the last nine years. Similar periods of poor spawning have been noted from time to time since the Department began its annual clam census at Pismo Beach in 1923 but none of the other periods lasted more than four or five years.

Results from test strips at both Morro Bay and Pismo Beach showed a scarcity of younger clams, the factor which Fitch took into consideration in predicting the poor years ahead.

The heaviest clam population is in the shallow waters where most digging takes place, but there are also large offshore reserves. From there, Fitch said, enough clams wash in to maintain a fairly constant supply of clams on the beaches.

Further restrictions on size and bag limits or extension of closed areas would do little to help the situation. "Only a good set can insure the future of the Pismo clam," Fitch explained.

He stressed that, although good clamming practices would be futile unless a good set occurred, it would be wise to see that the clam population is not reduced more than necessary.

It is important to educate the clam digger to restore undersize clams to their holes and not take clams under the legal size.

## Fish Stick Sales Down

Production of the frozen seafood specialty known as fish sticks has fallen sharply after a spectacular two-year rise. Profits of the packers are foundering beneath heavy waves of price-cutting, and a number have gone under.

The trouble burst without warning on an industry which had previously known nothing but success. Fish sticks basically are fillets of cod, haddock and ocean perch which are cut into rectangular blocks, breaded, frozen and usually pre-cooked. They were launched on the market in late 1953 and their quick-preparation, no-odor-or-mess appeal made them a sensational sales success with consumers.

Apparently too many companies jumped into the new business too soon. The U.S. Fish and Wildlife ers at the end of 1953. Rour months Service listed only 13 fish stick packlater there were 55—and new firms were coming in so fast the service temporarily lost count.

In the ensuing scramble for business prices and profit margins skidded downward. This forced many marginal packers to cut back on quality to stay in business—and this drove away a lot of customers who tried the lower-grade product and then quit buying.

* * *

California hunters bagged 3,289,000 ducks during the 1955 season, reports the National Automobile Club. This bag was down 5.9% from 1954 largely because of the floods in the Sacramento Valley.


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# Hunting Wild Ducks and Geese

Fall flights of wild ducks are expected to equal those of last year, stated the U.S. Interior Department in announcing its migratory waterfowl regulations for the present season.

These hunting regulations govern the general length of the seasons, bag and possession limits and shooting hours.

Specific hunting dates are selected by each state within the general limits of October 1 to January 15, 1957.

The nation's four flyways—Atlantic, Mississippi, Central and Pacific—are the migratory routes of the birds.

Season lengths and bag and possession limits are about the same as last year.

The Pacific flyway states are Arizona, California, Idaho, Nevada, Oregon, Utah and Washington. They again select identical seasons on ducks and geese, except Aoss' geese, of 80 consecutive full days, or two seasons aggregating 72 full dates.

All states in the Pacific flyway will again have an option of choosing a seven-day bag and possession limit of ducks, or a bag limit of six daily with a possession limit of 12. In addition to this limit, hunters may also bag an additional three birds—pintails or widgeons, which are a menace to crops in the area.

**Other Limits**

The daily bag and possession limit on geese, except Ross' geese, in the Pacific flyway states will again be six, but not more than three of the dark species of geese may be included in the limit.

Additional restrictions on the daily bag and possession limit for Canada geese in certain designated areas of Arizona, California, Idaho, Oregon and Utah will again be in effect. In these areas the hunting season on Canada geese must end on December 15.

The Klamath and Tulelake refuge area in California will be treated as though it were in Oregon and with the same hunting season on waterfowl. This permits a uniform season both sides of a public waterfowl hunting area bisected by state boundaries.

# BOAT SAFETY HEARINGS

Many Westerners have testified recently at public hearings of a U.S. House subcommittee gathering data on recreational boating safety.

Headed by Rep. Herbert C. Bonner of North Carolina, chairman of of the committee on merchant marine and fisheries of the House of Representatives, these hearings are a continuation of the nationwide study which commenced with public hearings in Washington during July to inquire into the necessity or desirability of additional federal legislation to keep pleasure boating safe.

Hearings have been held in several West Coast cities . . . San Pedro, San Diego, San Francisco, Seattle, etc.

Study is being made by Bonner's committee as the result of a request from the small boating industry that this committee inquire into the advisability or necessity for additional federal legislation to regulate pleasure boats. Present laws are based on regulations adopted in 1918 and 1940 and are not considered adequate for the great growth in numbers and speed of pleasure boats.

Recreational boating has grown enormously in the last 10 years. There are some 5,000,000 small boats in use and 25,000,000 persons availing themselves of recreational boating.

## The Dove Season

Dove season in Southern California this fall found those hunters going into the desert valley areas of Coachella, Imperial and Palo Verde having generally good shooting, depending on their ability to hit what they saw.

A good many hunters reported the birds were pretty young and small.

Other than the southern desert valleys, hunting generally was slow to spotty, most of the abundance of birds around earlier having winged south because of cold nights.

## Alaskan Cruise

The FWS exploratory fishing vessel *John N. Cobb* is surveying waters off Southeastern Alaska for bottom fish. Cruise No. 29 left Seattle on October 1 and will return on November 16.

The bottom trawling exploration will be concentrated on the contithem to go farther from port in recent Entrance northward to the southern end of Baranof Island. Commercial-size otter trawls will be used, and extensive echo-sounding will be carried out to determine the extent of suitable bottom. It is planned that trawling will be conducted out to depths of 200 fathoms or more to determine species and quantities of marketable trawl fish present in these waters at this time of year.

Commercial fishermen have requested exploration of these grounds since it has become necessary for them to go father from port in recent years in order to bring in good catches. It is thought that species such as Pacific Ocean perch, cod and "sole" may be present off Southeastern Alaska in quantities sufficient to support profitable fishing. Navigation charts indicate that a considerable part of the bottom is rocky, but certain places appear to be satisfactory for trawling on sand and mud bottom.

The *Cobb* will also carry shrimp beam trawls, and a limited amount of exploration for shrimp in promising inshore areas is planned, primarily during periods of bad weather when offshore trawling will not be practical.

## Sardine and Mackerel Fleet at Work

Boats of the Southern California sardine and mackerel fleet started out to sea after fishermen and canners signed a new agreement on fish prices for the season which opened October 1. Members of California Fish Canners Association agreed to accept 25,000 tons of mackerel for the season, according to Mason Case, manager of the Fishermen's Co-operative Association, representing 115 boat owners and about 1650 fishermen. Same prices will be paid as for last season . . . $47.50 a ton for sardines, $45.50 for blue or Pacific mackerel, and $42.50 for jack mackerel and mixed fish.

# The GLOBE

An International News File Compiled from FOREIGN REPORTS

**Japan.**—In an effort to develop new fishing grounds to relieve overfishing in the coastal waters of Japan, the Japanese Fisheries Agency has asked for appropriations in the next fiscal year to station a fisheries officer at Singapore. He will supervise fishermen operating in the Indian Ocean and surrounding waters, promote joint fishing ventures with Singapore and Malayan authorities, and develop markets for Japanese fisheries products. The undeveloped fishing grounds which the Japanese are currently interested in are waters off the east coast of South America, the Persian Gulf, and the Red Sea.

**Russia.**—The Soviet Russian fleet engaged in fishing operations near the Faroe Islands has usually numbered about 125 trawlers and about 10 mother vessels but recently, it is reported, the number of trawlers has been increased to about 300. The Soviet Minister for Fisheries has stated to Norwegian newspapers that further expansion of the fleet is contemplated; a part of the 50 ultramodern trawlers which the U.S.S.R. has under construction in German shipyards will be commissioned in that trade in 1958.

**Germany.**—A West German trawler which fished west of Iceland in March 1956 found another rich fishing ground only 80 nautical miles west of the Dohrn Bank on the east coast of Greenland. The new bank is so rich in both cod and ocean perch that trawlers fill their holds in a short period. More and more of the West German trawlers are fishing off Greenland. The trips take a few days longer than to waters off the Norwegian coast but the new grounds offer better possibilities.

**Australia.**—Legislation is in the process of passing through the Australian Parliament setting up a Fisheries Development Trust Account. This would be used as a revolving fund for the development of new projects which could be liquidated as soon as private investors were willing to take them up. Marked for first attention in planning a development program for consideration by the Minister are shrimp, pilchards, tuna (Queensland, North-West Australia and outer South-Eastern Australian waters), and trawling in the Great Australian Bight.

**India.**—The discovery of a rich new shrimp ground, extending 140 miles along India's Malabar coast, according to an FAO expert in Rome, has already led to the start of a shrimp trawling industry and shrimp freezing for domestic and export trade. With other developments taking place on India's east coast, this has created a demand among Indian fishermen for mechanized boats, nylon nets, and other modern fishing gear. Twenty 30-foot boats, designed by FAO naval architects, are nearing completion, he said, and the Madras State government has drawn up a five-year program of fisheries development.

**New Caledonia.**—A special study of tuna in the waters around New Caledonia is being made by the fishing section of the Institute Francais of Oceanie. Attention is being given to the possibilities of tuna fishing as a commercial enterprise. The scientific fishery vessel of the Institute Orsom III, is at work in the New Hebrides, with two scientists aboard. The men are studying ocean currents, species of fish, and plankton.

**South Africa.**—Plans are being made by the Division of Fisheries, Cape Town, to step up research in the Union's West Coast pilchard and jack mackerel (mass-banker) fisheries. According to the Division's director these plans include the addition of 10 new scientific positions to his division; the construction of further laboratories at the Division's research center at Sea Point, near downtown Cape Town; and the construction of three new research vessels, costing about US $434,000.

The research vessels are to include one of 100 feet, most probably of steel, costing about US $238,000; and two of 75 feet, costing about US $98,000 each, and built of wood. It is understood that all these vessels will be built in South Africa by local firms. They will be somewhat similar in design to United States fishing vessels operating off the U.S. Pacific coast but will be modified to fit conditions in South African fishing waters.

**Singapore.**—Interest in the cultivation of prawns or shrimp in the swampy areas within the Colony of Singapore has increased in recent years. At the present time it is estimated that 1,200 acres of swamp ponds, or about 10% of the available area, are used for the cultivation of prawns. Production averages about $\frac{1}{2}$ ton per acre per annum, or 600 metric tons a year. It is believed that if additional swampland is cleared that the annual production could be increased to 6,000 tons, making a valuable supplement to the food supply.

**Denmark.**—The catch of fishery products by Denmark in 1955 broke records for both quantity and value. The total catch amounted to about 923.7 million pounds as compared with 778.2 million pounds in 1954. Fishermen received about US$36.2 million for the 1955 catch as compared with US$32.0 million in 1954. Prospects are considered good for further expansion because Danish exports were well accepted on the world market and were competitive in every respect.

It is believed that the production from nearby waters has not reached its peak, but in future years the Danish fisheries would have to depend on the distant fishing grounds off the Faroes and Greenland. This would require larger and more seaworthy craft.

# Canned Foods Show Increase

"How Canned Foods Are Promoted in America" was the subject of a talk given in Rome by Nelson H. Budd, Director of the Information Division of the National Canners Association, before commercial food canners from nearly 20 nations.

Mr. Budd discussed the efforts to promote consumer acceptance and sale of canned foods in the United States in five categories:

(1) Those of individual canners to advertise and publicize their own products, estimated to involve an annual expenditure of $73,305,000.

(2) The Consumer and Trade Relations program of the National Canners Association which furthers acceptance of canned foods as a class of foods, but does not promote or advertise brands or specific commodities, on which the organization expends $325,000 per year.

(3) The similar but less comprehensive programs conducted by about a dozen of the state and regional canning associations, emphasizing local canning achievements rather than national. These programs total about $70,000 per year.

(4) National promotions of specific canned products by the several commodity associations, amounting to about $7,100,000 annually.

(5) Promotions, involving both advertising and publicity, financed and conducted by the container and closure manufacturers and their trade organizations, which emphasize advantages of canned foods, amounting to approximately $7,500,000 per year.

Altogether the estimated annual total of expenditures of all five categories comes to approximately $88,300,000 or about 2.9% of the average annual value of the product at the canner level, Mr. Budd stated.

These programs have the common denominator of extolling the contributions of canned foods to varied and healthful diet, to a betterment of the nation's food economy, and to the high standard of living. The constant quality improvement of canned foods provide a basic source for the numerous publicity and advertising messages disseminated.

There has been a 20-fold increase in canned foods production during the 50 years existence of the National Canners Association with its many scientific and professional activities. The hostility towards canned foods prevalent when the Association was formed has been largely overcome.

## Improvement Predicted for Fish Industry

Americans are abandoning their habit of eating fish principally on one day of the week, according to a marketing expert from the University of California, Los Angeles.

In a paper prepared for discussion at an international meeting, Dr. Ralph Cassady, professor of marketing, predicted a bright future for the American fish industry.

Most significant reason for rising fish sales in the U.S., Dr. Cassady believes, has been the shift from fresh to frozen fish distribution. A few years ago, housewives had to rely on a relatively few stores which carried the product as an accommodation for consumers, sometimes only on Thursday and Friday. Today fish is available in the freezer cabinets of the large majority of supermarkets throughout the country.

Despite rising fish sales, the marketing specialist pointed out that America is still overwhelmingly a meat eating country. He recommended that fish consumption be promoted by all kinds of cooperative advertising.

## Hunting and Fishing Is Big Business

The total contribution of hunting and fishing to the nation's business has been estimated variously from 5 to 11 billion dollars annually. To get more accurate statistics on this, the first national survey on the economic aspects of hunting and fishing got underway recently.

Primary objectives are to determine the number of persons, by age, sex and licensing, who hunted and/or fished for sport during 1955; the amount of time spent on these sports; and the amount of money spent, including all expenditures for items connected directly with hunting or fishing.

The survey is being supervised by the U.S. Fish and Wildlife Service.

## Hunting Safety

With various hunting seasons opening and closing around California and the crack of firearms being heard in the land, many motorists are taking off on their weekends for a shot at this or that type of game. Unfortunately, points out the National Automobile Club, all too many of them are ending up by accidentally shooting themselves or their fellow hunters.

You can make your first step in the right direction of hunting safety by knowing and heeding the regulations that govern the use of firearms in hunting. You can't use just any kind of gun to hunt any kind of game.

Your second step will be to see that you never leave a loaded gun lying around your house, attempt to take one with you in your automobile, or leave one lying around your camp. In fact, the wise hunter will see to it that a gun is never left unattended without first being unloaded.

When you have set out from camp and are hot in pursuit of the game you may carry a loaded gun but you must carry it with caution. Don't just sling it about your person in any old position, but always carry it so that you can easily control the direction of the muzzle if you should happen to stumble or fall. And when you come to these fences that you have to get over or through, be sure that your gun is ahead of you and that the muzzle is pointed towards the ground.

Things can go wrong, too, in the very act of shooting. There's always the eager hunter who will point his gun at anything, whether he's going to shoot it or not, just for the practice. And then the gun goes off. There's the hunter who goes ahead and shoots at hard surfaces or at the surface of water, just because he doesn't know any better. And then again there's the hunter who pulls that trigger before he's sure of his target.

It almost goes without saying that the wise hunter will never mix alcohol with his shooting and will always treat every gun as if it were loaded

## Fish and Shellfish Supplies Plentiful

National Fish Week in October will mark the grand climax of the "Fish Parade" campaign of national advertising and promotion begun in July by the National Fish Week Committee. This is a massive cooperative effort by nearly a score of fishery associations to promote greater consumption of fishery products. Fishermen, filleters, canners, distributors, and all other segments of the industry are represented.

Food editors, food stores and the U.S. Government will cooperate through use of the facilities of the Fish and Wildlife Service, Department of the Interior, and the Agricultural Marketing Service of the Department of Agriculture. "National Tuna Week" is enjoying a big play throughout the month of September. All this effort is intended to induce people to go out and buy fishery products or to order them at public eating establishments. Restaurants and other places serving food have the opportunity to participate in the benefits.

Besides tuna, fresh and frozen fish supplies will be at a high level. Shrimp landings will be near their annual peak and prices should be more attractive. Fish sticks are in excellent supply. New stock frozen fillets will be plentiful. Whatever the taste in fish or shellfish no one need be disappointed.

## "Fish Parade" Plans

The "Fish Parade," which is the fishing industry's designation of its 1956 National Fish Week, Ocotber 29 to November 2, has strong support including that of the Department of the Interior. Among the many features of the program will be the "Shrimp Fiesta" which will begin October 15 and end November 3.

The goal of the fishing industry is to develop an increased fall selling season when inventories are normally at their peak. Historically, the big selling season for fishery products occurs during Lent each year.

Because fish is one of the most valuable of protein foods, the All-Industry Fish Week Committee decided that a fall drive to increase the use of fish and shellfish would be beneficial to the industry and the consumer alike.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY ACT OF CONGRESS OF PAN AMERICAN FISHERMAN, PUBLISHED MONTHLY AT ORANGE, CALIF., FOR OCTOBER 1, 1956.

State of California )
County of Orange ) ss.

Before me, a notary public in and for the State and county aforesaid, personally appeared Briant Sando, who having been duly sworn according to law, deposes and says that he is the publisher of Pan American Fisherman and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Acts of March 3, 1933 and July 2, 1946, embodied in section 537, Postal Laws and Regulations, to wit:

1. That the names and addresses of the publisher, editor, and business managers are: Publisher, Briant Sando; Editor, Briant Sando; Business Manager, Briant Sando, Orange Savings Bldg., Orange, Calif.

2. That the owners are Briant Sando and Anne M. Sando, Orange Savings Bldg., Orange, Calif.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholders or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustees is acting, is given; also the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds or other securities than as so stated by him.

BRIANT SANDO, Publisher

Sworn and subscribed before me this 1st day of October, 1956.

Clyde Newton, Notary Public
(My commission expires January 21, 1959)


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When all the shouting is over and the last campaign speech has been made, isn't this what all the struggle is really about?

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## *Working Toward a . . .*

# BIGGER AND BETTER FISHERY MARKET

MOST fishery interests agree that things are looking up for the future. Some of our most troublesome problems are being recognized and helpful solutions searchd out—by both business and government authorities. You can read about them on other pages in this magazine.

With the American economy in general on a high level, and most lines of business apparently destined to remain that way, we believe that the fisheries situation also will shape up quite satisfactorily.

Our efforts now and always are dedicated to the creation of bigger and better markets for canned tuna, and to advance the best interests of the entire tuna industry.

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